

## **Remarks**

Reconsideration of this Application is respectfully requested.

Upon entry of the foregoing amendment, claims 1-24 are pending in the application, with claims 1, 9 and 18 being the independent claims. Claims 1, 9, 15, 18 and 22 are sought to be amended. These changes are believed to introduce no new matter, and their entry is respectfully requested.

Based on the above amendment and the following remarks, Applicant respectfully requests that the Examiner reconsider all outstanding objections and rejections and that they be withdrawn.

### ***Claim Amendments***

Claims 1, 9, 15, 18 and 22 have been amended to clarify the subject matter claimed therein. These amendments are not intended to narrow the claims. These amendments are believed to introduce no new subject matter, and their entry is respectfully requested.

### ***Rejections under 35 U.S.C. § 102***

The Examiner has rejected claims 1-5, 7-13, 15-20 and 22-24 under 35 U.S.C. § 102(e) as anticipated by U.S. Patent No. 6,385,773 to Schwartzman *et al.* ("Schwartzman"), and has objected to pending claims 6,14, and 21 as being dependent upon a rejected base claim. Applicant has carefully considered the Examiner's rejections, but, for the reasons set forth herein, respectfully traverses.

Schwartzman is directed to a CMTS in a cable modem plant that manages transitions among different upstream frequency channels. The CMTS is capable of measuring a noise level and a bit error rate of a particular upstream channel. If the bit

error rate exceeds a threshold value, then the CMTS compares the noise level of the channel to the noise level of other channels in order to find a cleaner or preferred channel having a lower noise level. The CMTS then instructs cable modems in the cable plant to transition to the cleaner or preferred channel.

Claim 1, as currently amended, recites:

1. A method for maintaining the integrity of a communication system, comprising:
  - detecting an impairment on a communication channel of the communication system;
  - characterizing said impairment as one of a plurality of impairment types; and
  - adapting operating parameters of the communication system in accordance with said characterization of said impairment.

Schwartzman does not teach or suggest each of the foregoing features. For example, Schwartzman does not teach “characterizing said impairment as one of a plurality of impairment types.” As noted above, in Schwartzman, an impairment is detected by analyzing the bit error rate of a particular upstream frequency channel. However, the type of impairment is never determined. Thus, for example, in Schwartzman, no determination is made as to whether the impairment is associated with common path distortion (CPD), periodic impulse/burst noise, ingress, or some other impairment type.

Because Schwartzman does not teach or suggest each and every element of claim 1, it cannot anticipate that claim. Accordingly, the Examiner's rejection of claim 1 is traversed and Applicants respectfully request that the rejection be withdrawn. Furthermore, since each of claims 2-8 depend from claim 1 (and therefore include each and every feature of claim 1), Schwartzman does not teach or suggest every feature of each of those claims. Therefore, Applicants also respectfully request that the Examiner's rejection of and objections to claims 2-8 be withdrawn in light of the remarks made above.

Claim 9, as currently amended, recites:

9. A system for maintaining the integrity a communication system comprising:

an analog receiver that receives analog data from the communication system;

an analog-to-digital converter coupled to said analog receiver that converts said analog data into digitized data;

a fast Fourier transform (FFT) processor coupled to said analog-to-digital converter that receives said digitized data and performs a time domain to frequency domain conversion of said digitized data; and

a processor coupled to said FFT processor that examines said converted digitized data to detect an impairment on a communication channel of the communication system and classify said impairment as one of a plurality of impairment types.

Schwartzman does not teach or suggest each of the foregoing features. For example, Schwartzman does not teach or suggest "a processor coupled to said FFT processor that examines said converted digitized data to detect an impairment on a communication channel of the communication system and classify said impairment as one of a plurality of impairment types." As noted above, in Schwartzman, a CMTS detects channel impairments by analyzing the bit error rate of a particular upstream frequency channel. However, the type of impairment is never determined. Thus, for example, in Schwartzman, no determination is made as to whether the impairment is associated with common path distortion (CPD), periodic impulse/burst noise, ingress, or some other impairment type.

Because Schwartzman does not teach or suggest each and every element of claim 9, it cannot anticipate that claim. Accordingly, the Examiner's rejection of claim 9 is traversed and Applicants respectfully request that the rejection be withdrawn. Furthermore, since each of claims 10-17 depend from claim 9 (and therefore include each and every feature of claim 9), Schwartzman does not teach or suggest every feature of each of those claims. Therefore, Applicants also respectfully request that the Examiner's

rejection of and objections to claims 10-17 be withdrawn in light of the remarks made above.

Claim 18, as currently amended, recites:

An apparatus for maintaining the integrity of a communication system comprising:  
receiving means for receiving analog data from the communication system;  
converting means for converting said analog data into digitized data;  
transforming means for transforming said digitized data from a time domain to a frequency domain; and  
processing means for examining said transformed digitized data to detect an impairment on a communication channel of the communication system and classify said impairment as one of a plurality of impairment types.

Schwartzman does not teach or suggest each of the foregoing features. For example, Schwartzman does not teach or suggest "processing means for examining said transformed digitized data to detect an impairment on a communication channel of the communication system and classify said impairment as one of a plurality of impairment types." As noted above, in Schwartzman, a CMTS detects channel impairments by analyzing the bit error rate of a particular upstream frequency channel. However, the type of impairment is never determined. Thus, for example, in Schwartzman, no determination is made as to whether the impairment is associated with common path distortion (CPD), periodic impulse/burst noise, ingress, or some other impairment type.

Because Schwartzman does not teach or suggest each and every element of claim 18, it cannot anticipate that claim. Accordingly, the Examiner's rejection of claim 18 is traversed and Applicants respectfully request that the rejection be withdrawn. Furthermore, since each of claims 19-24 depend from claim 18 (and therefore include each and every feature of claim 18), Schwartzman does not teach or suggest every feature of each of those claims. Therefore, Applicants also respectfully request that the

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Examiner's rejection of and objections to claims 19-24 be withdrawn in light of the remarks made above.

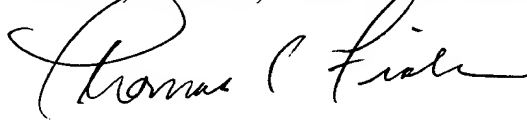
### Conclusion

All of the stated grounds of objection and rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider all presently outstanding objections and rejections and that they be withdrawn. Applicant believes that a full and complete reply has been made to the outstanding Office Action and, as such, the present application is in condition for allowance. If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

Prompt and favorable consideration of this Amendment and Reply is respectfully requested.

Respectfully submitted,

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